

ONWA[®]
Marine Electronics

Touch. Press. Command
All-in-One. All Under Control



K-Astral

Easy-to-use MFD (Chartplotter) with **Highly Responsive Touchscreen** and Traditional Keypad Interface





Highlights

Touchscreen

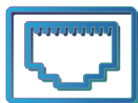
- 10-point multi-touch, highly responsive, operable under wet conditions
- Anti-glare, anti-fingerprint surface

Built-in Functions

- Next-generation CHIRP Fishfinder
- Integrated radar (radar antenna optional)

Display

- 8" and 12" high-resolution color LCD (up to 1024 × 768)
- 1000 cd/m² (nits) sunlight-viewable brightness



Ethernet Port

For network connection
(Radar, Sonar, IP Camera, ONENET etc.)



K-CHART

Free detailed sea map



Compatible with Navionics+



User Definable Multi-mode Display



Expandable Features



Built-in AIS Transponder



Built-in CHIRP Fishfinder



Built-in Radar Function Radar Antenna Needed



SD Card System Update



Support C-MAP® DISCOVER™ X and REVEAL™ X



Gauges

Displays Engine, Genset,
Rudder, and working condition



NMEA0183 NMEA2000 ONENET (Beta Version) NMEA Interface



Built-in HDMI Feature (Optional)

GNSS

Built-in GNSS antenna
integrated GNSS receiver, supporting
multi-constellations, delivering
uninterrupted, global coverage
(Optional External Antenna)

► Models



K-Astral 8
8" GPS Chartplotter



K-Astral 8A
8" GPS Chart Plotter
with built-in Class B+ AIS Transponder



K-Astral 8C
8" GPS Chart Plotter
with built-in Chirp Fishfinder



K-Astral 8X
8" GPS Chart Plotter with built-in Chirp Fishfinder,
and Class B+ AIS Transponder



K-Astral 12
12" GPS Chartplotter



K-Astral 12A
12" GPS Chart Plotter
with built-in Class B+ AIS Transponder

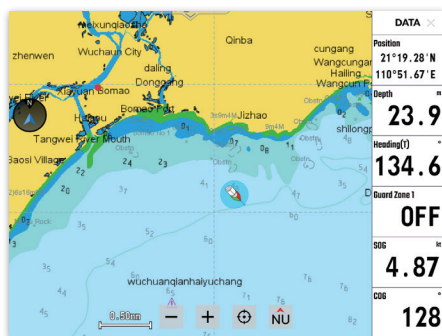


K-Astral 12C
12" GPS Chart Plotter
with built-in Chirp Fishfinder

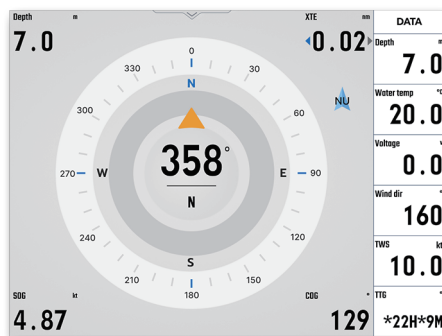


K-Astral 12X
12" GPS Chart Plotter with built-in Chirp Fishfinder,
and Class B+ AIS Transponder

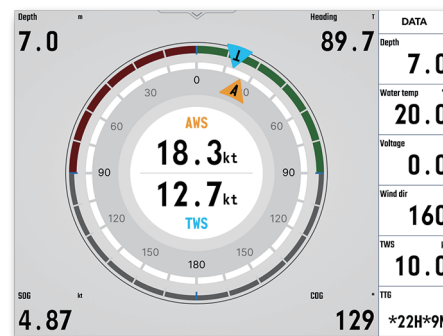
➤ Different Display Modes



Chartplotter



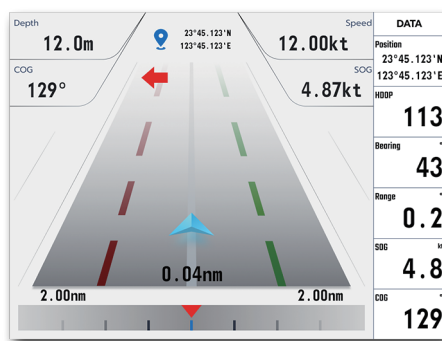
Compass



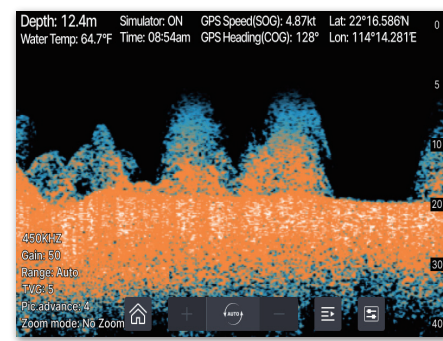
Wind



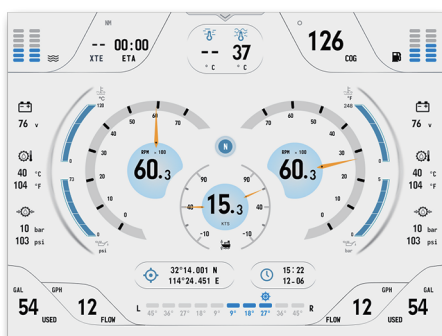
Radar



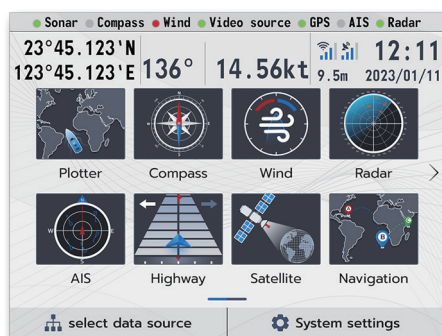
Highway



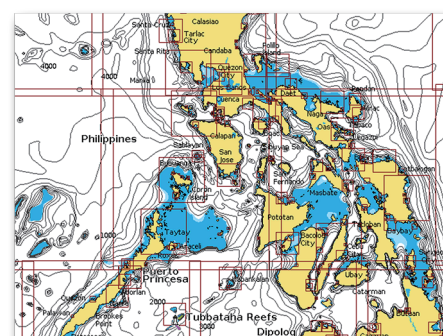
Fishfinder



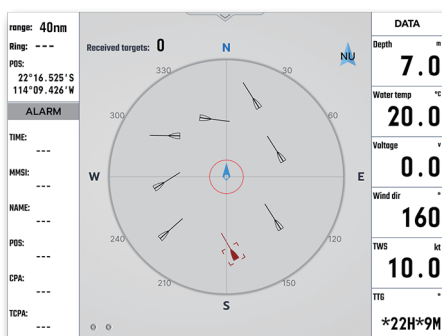
Gauges



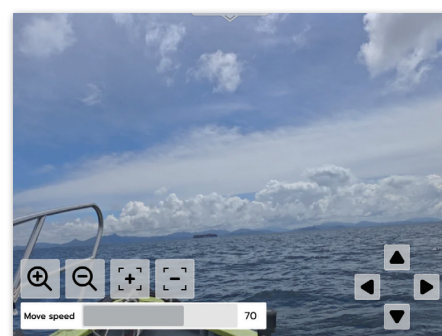
Home Screen



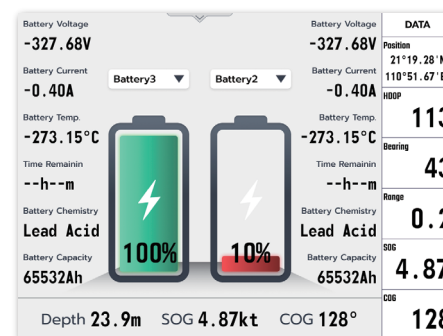
NAVIONICS Supported



AIS

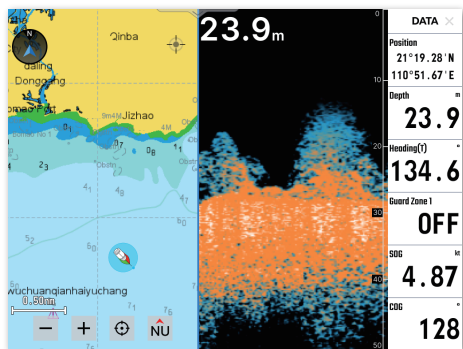


CCTV

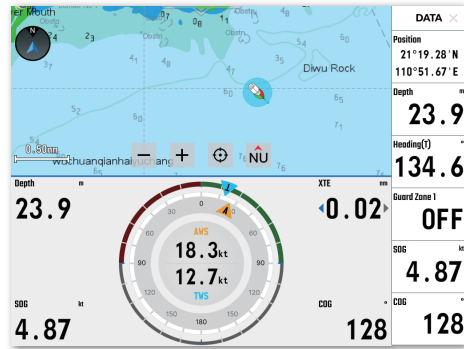


Battery Management System (BMS) monitoring

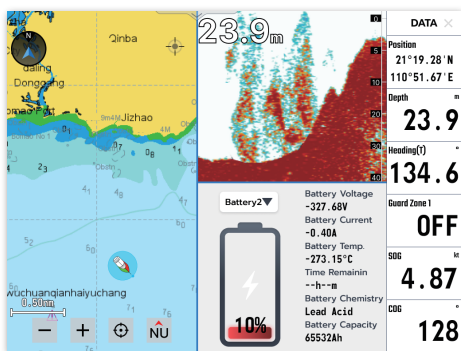
➤ USER-DEFINED DISPLAY MODES



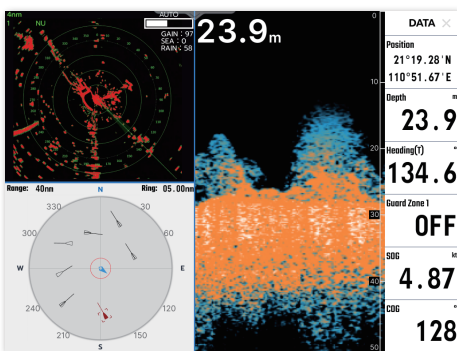
Dual - Portrait



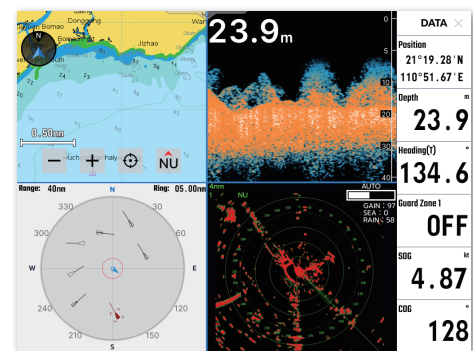
Dual - Landscape



Tri - 1



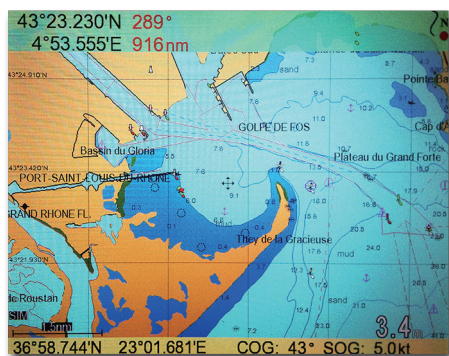
Tri - 2



Quad

➤ CHART PLOTTER

Compatible with the following mapping systems:



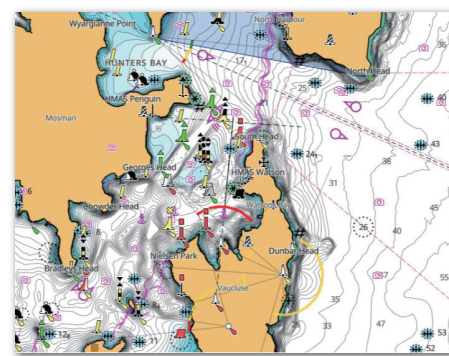
K-Chart Mapping System

ONWA Chart Plotters are compatible with K-Chart Mapping and displays worldwide Electronic Charts that users can use for FREE



Navionics+

ONWA Chart Plotters when used with Navionics+ charts shows Nautical Charts and Sonar Charts. Advance options also include: Highlight Shallow Area, Adjust Contour Density and Shallow Fishing Range



Support C-MAP® DISCOVER™ X and REVEAL™ X

ONWA Chart Plotters are also compatible with C-MAP X-CHART showing Nautical Charts

Chart Features

Waypoints:	Up to 12,000 (with symbols or names); 10 most recent displayed
Routes:	30 routes, up to 170 points per route
Tracks:	Auto record 80,000 points; 10 track lines (up to 8,000 points each)
Alarms:	8 types – Cross Track Error (XTE), anchor drag, zone arrival, speed, voltage, timer, Wind Speed Alarm (AWS)
Palette:	Normal / Night / Daylight / Paper chart
Projection:	Mercator
Position Format:	Longitude / Latitude
Maps:	Worldwide Basemap
External Maps:	K-Chart / Navionics+ / C-MAP® DISCOVER™ X and REVEAL™ X
User Data Storage:	Internal memory or SD card
Recording Interval:	1s–99h / 0.01–9.99 NM
Chart Scale:	0.002–500 NM

NMEA0183 Sentences supported

- ◆ **INPUT:** auto scan baudrate
GGA, GLL, GSA, GSV, RMC, HDG, HDM, HDT, THS, ZDA, MTW, VWR, VWT, MWD, VDO, VDM, MTA, DBT, DPT, MWV, WPL, XDR, BOD, VTG, BWR, BWC, XTE, VWR, VPW, AAM, RMB.
- ◆ **OUTPUT Baudrate: Selectable** 4800, 9600, 19200, 38400
GGA, GLL, RMC, GSA, GSV, AAM, APA, APB, BOD, BWC, BWR, DBT, DPT, HDT, MTW, RMB, VTG, WPL, XTE, ZDA, ZTG, ZDL, MWD, VPW, VWR, VWT, HDM, THS, MWV, XDR, VDO, VDM, TLL.
- ◆ **Outputs for Autopilot:** APA, APB, XTE, BOD

NMEA2000&OneNet PGN supported

Transmit & Receive:	126992, 126993, 126996, 126998, 127237, 127238, 127245, 127250, 127251, 127252, 127257, 127258, 127488, 127489, 127493, 127506, 127508, 127513, 128006, 128007, 128008, 128259, 128267, 128275, 129025, 129026, 129029, 129033, 129038, 129039, 129040, 129041, 129044, 129283, 129284, 129285, 129291, 129539, 129540, 129793, 129794, 129795, 129797, 129798, 129801, 129802, 129808, 129809, 129810, 129811, 129812, 130306, 130310, 130311, 130312, 130578, 126208, 126464, 059392, 059904, 060160, 060416, 060928, 065240
Receive:	127497, 127498, 127505, 130314

Power Supply

Series	Input Voltage	Max Power	Rated Current at 12V
K-Astral 12	10.5–31.2 V	30 W	2.5A
K-Astral 12A/C/X	10.5–31.2 V	42 W	3.5A
K-Astral 8	10.5–31.2 V	30 W	2.5A
K-Astral 8A/C/X	10.5–31.2 V	39.6 W	3.3A

Physical Parameters

Series	Dimensions (L×W×H)	Weight	Display	Resolution	Display Area (W×H)
K-Astral 8 Series	276.1×165.9×81.9 mm (10.87×6.53×3.05 in.)	1.4 kg (3.1 lbs)	8" TFT LCD	1024×768	162.05×121.54 mm (6.38×4.79 in.)
K-Astral 12 Series	369.9×234.9×84.8 mm (14.56×9.25×3.17 in.)	2.4 kg (5.5 lbs)	12.1" TFT LCD	1024×768	245.76×184.32 mm (9.68×7.26 in.)

Environmental Ratings (8 & 12 Series):

Water Rating:	Display Unit IPX6
Operating Temperature:	Display Unit -15°C to +55°C

Satellite Reception Performance

GNSS: GPS and Beidou (K-Astral 8A, K-Astral 8X, K-Astral 12A and K-Astral 12X)	
Channels:	56
Sensitivity:	Acquisition: -148 dBm; Tracking: -162 dBm
TTFF (Time to First Fix):	Cold start avg. 35S; Warm start avg. 10s; Hot start avg. 1s
Update Rate:	1 Hz or 10Hz (depends on model)
Accuracy:	Position ≤3 m(95%) without S/A; Speed 0.1 m/s; Time ±100 ns
Dynamics:	Altitude ≤18,000 m; Speed ≤515 m/s; Acceleration ≤4g
Chart Standard:	WGS 84 and others
Antenna:	Standard configuration: KA-012 with adapter optional KA-09 external antenna

GNSS: Choice of 4 GNSS GPS, Beidou, Galileo, GLONASS (K-Astral 8, K-Astral 8C, K-Astral 12 and K-Astral 12C)	
Channels:	52
Sensitivity:	Acquisition: -148 dBm; Tracking: -162 dBm
TTFF (Time to First Fix):	Cold start avg. ≤23S; Warm start avg. ≤1s; Hot start avg. 1s
Update Rate:	Default 1 Hz, maximum 10 Hz. (depends on model)
Accuracy:	Position ≤1.5 m(CEP50) ; Speed 0.1 m/s; Time ±100 ns
Dynamics:	Altitude ≤18,000 m; Speed ≤500 m/s; Acceleration ≤2g
Chart Standard:	WGS 84 and others
Antenna:	Standard configuration: KA-012 with adapter optional KA-09 external antenna Built-in

AIS Interface

Baud Rate:	38,400
Frequency:	161.975 MHz, 162.025 MHz
Access Scheme:	SOTDMA, CSTDMA
Channel Bandwidth:	25KHz
Modulation:	GMSK
Data Rate:	9,600 bps
AIS Transmitters:	1
AIS Receivers:	2
AIS Channel 1:	CH 87B(161.975 MHz)
AIS Channel 2:	CH 88B(162.025 MHz)
TX Power Output:	>5 Watt (37 dBm±1.5dB)
RX Sensitivity:	>112 dBm @ 20%PER
RX Message Format:	AIS Class A and B messages, AIS SART, AtoN, AIS station
Complies with Standards:	ITU-R M.1371-5: 2014; IEC 62287-1 Ed. 3: 2017; IEC 62287-2 Ed. 2: 2017

Data Interfaces

- NMEA2000 network
- Gigabit Ethernet port
- RJ-45 ONWA Marine network
- 6-pin XDCR (Transducer, K-Astral 8C, 12C, 8X, 12X)
- VHF (AIS antenna interface, K-Astral 8A, 12A, 8X, 12X)
- BNC (External GNSS antenna)
- HDMI Output (Optional)
- SD card slot
- 8-pin Power Port (Power + NMEA 0183 network)
- WiFi Frequency: 2.4 GHz @ 17 dBm (max)
- WiFi Speed: up to 433 Mbps
- IP Camera Support: ONVIF protocol; Pelco-D pass-through supported

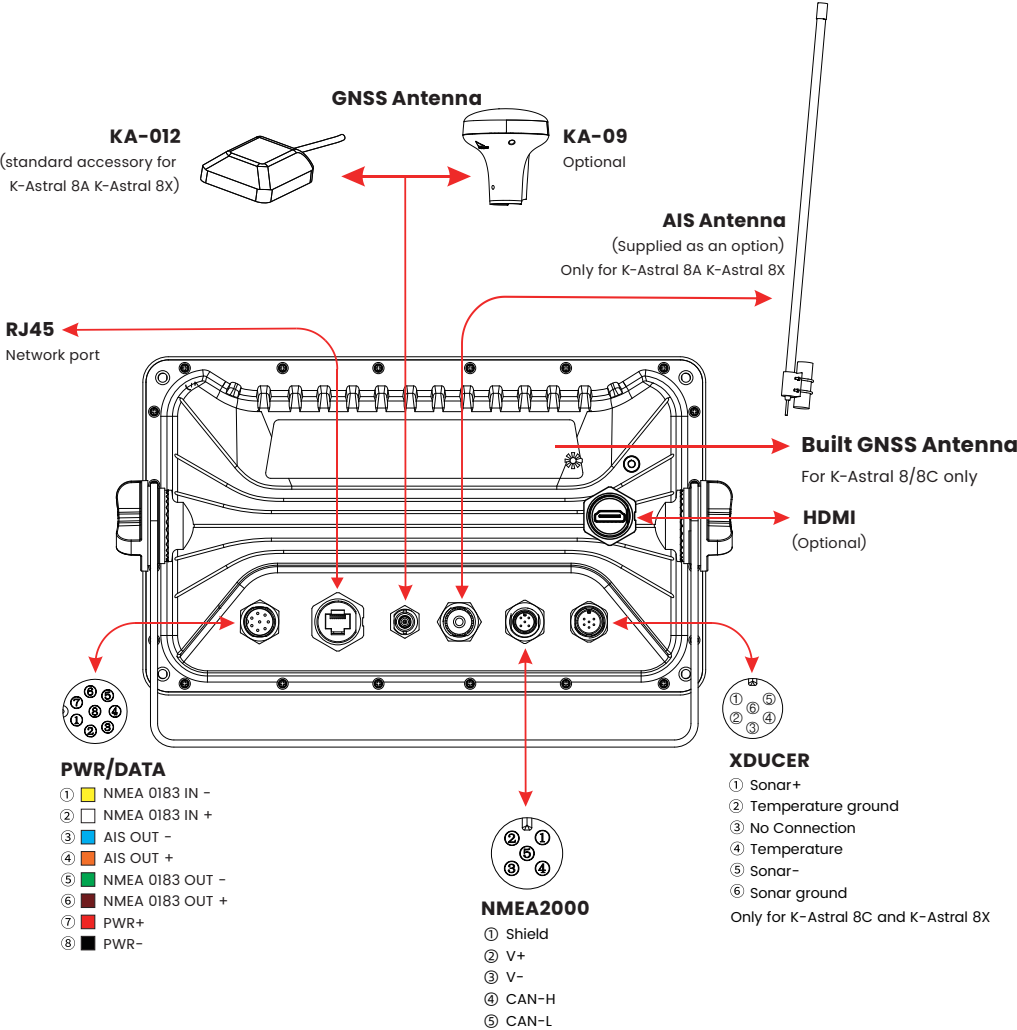
Radar Display Unit Parameters

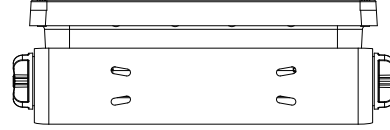
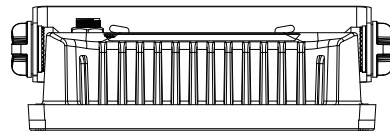
Range scale (nm):	Range, Range interval and number of Rings: 0.125(0.0625,2), 0.25(0.125,2), 0.5(0.125,4), 0.75(0.25,3), 1(0.25,4), 1.5(0.25,6), 2(0.5,4), 3(0.5,6), 4(1,4), 6(1,6), 8(2,4), 12(2,6), 16(4,4), 24(4,6), 36(6,6)
Bearing resolution:	4°
Bearing accuracy:	Within 1°
Range discrimination:	Better than 30 m
Range ring accuracy:	0.9% or range in use or 8 m, whichever is higher
Minimum range:	Better than 25 m
Markers:	Heading line, Bearing scale, Range ring, VRM, EBL Tuning indicator, Cursor, Alarm zone, North mark (heading sensor input required)
Alphanumeric indication:	Range, Range ring interval, Pulselength, Interference rejection (IR), VRM, EBL, stand-by (ST-BY), Radar alarm, Echo stretch (ES), Range to cursor, Bearing to cursor, Echo trailing (TRAIL), Trail time, Trail elapsed time, Navigation data (navigation input required), heading (HDG, heading sensor input required)

Sonar Specifications

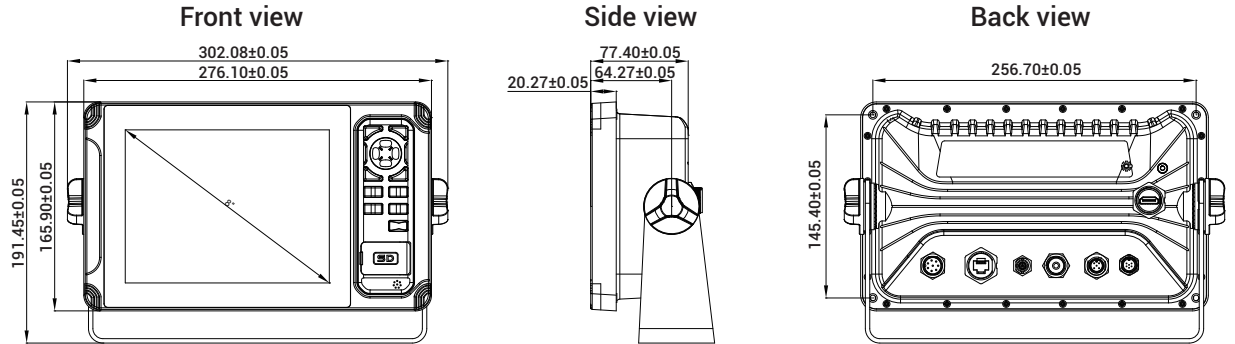
Sonar	Frequency (subject to the transducer applied)	Measuring Range (adjustable in system menu)	Transmit Power (RMS)
Traditional	50/200 KHz	Up to 1000m	1000 W
CHIRP	83/200/445 KHz	Up to 200m	500 W

K-Astral 8

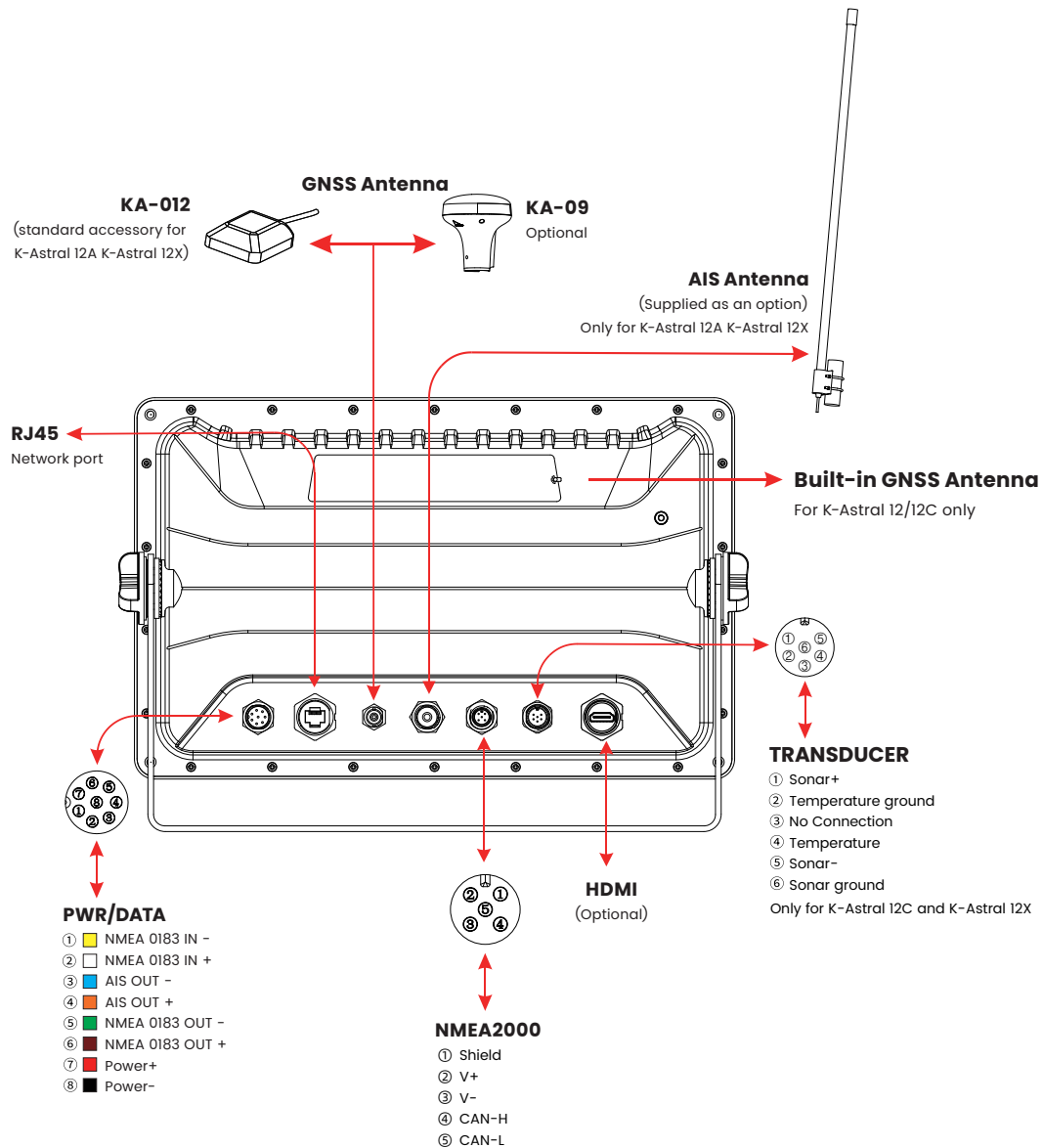


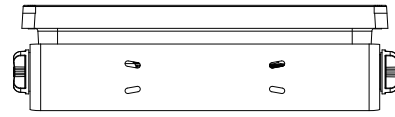
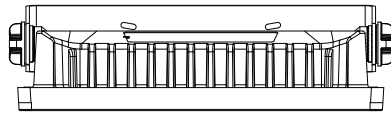


DISPLAY UNIT (DIMENSIONS)

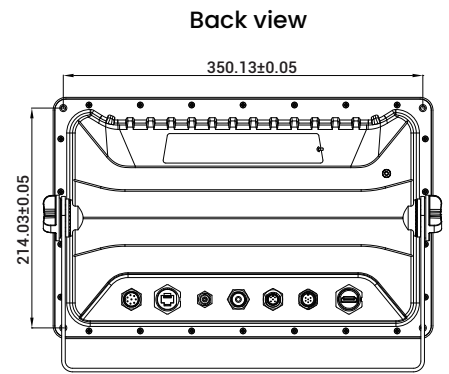
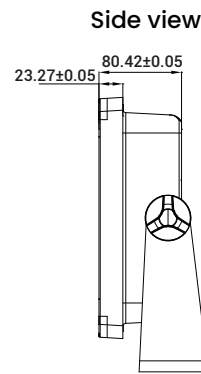
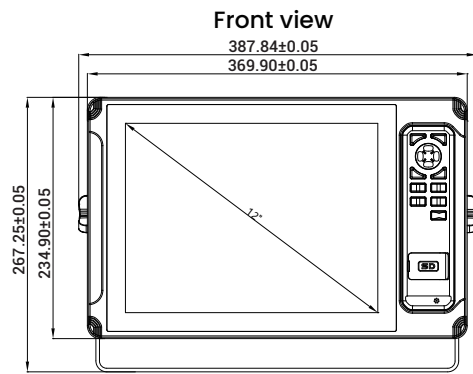


K-Astral 12





DISPLAY UNIT (DIMENSIONS)



All specifications are subject to change without prior notice!